

I Claim:

1. In a clamp for clamping a workpiece to a fixture, said clamp having an elongated, hollow body for attachment to the fixture and presenting an interior wall, a piston presenting an outer wall and telescopically received within said body for movement between a clamping position for clamping said workpiece to the fixture and a release position, and a cam assembly for guiding relative movement between said piston and said body, the cam assembly including a cam track formed in one of said interior wall of the body and said outer wall of the piston, and a cam follower received within said cam track and attached to the other of said interior wall of the body and said outer wall of the piston, the improvement comprising a spring biasing said cam follower toward said cam track.

2. The clamp of claim 1, there being a force-transmitting component engaging said follower, said spring engaging said component.

3. The clamp of claim 2, said component presenting an arcuate face engaging said follower and an opposed spring-engaging face.

4. The clamp of claim 1, said follower comprising a ball.

5. The clamp of claim 1, said cam track comprising a groove formed in said piston outer wall.

6. The clamp of claim 1, the cam assembly including a plurality of differently configured, spaced apart cam tracks formed in said piston outer wall, said cam follower being positionable in any one of the cam tracks for guiding said relative movement in respective directions corresponding to the configuration of the one cam track.

7. The clamp of claim 1, further including a clamping head operably coupled with said piston for engaging and clamping the workpiece to the fixture when the piston is in said clamping position thereof.

8. The clamp of claim 1, said cam follower having an outer peripheral surface presenting a radius of curvature, the cam track including a central arcuate region having a radius of curvature substantially equal to the radius of curvature of said cam follower, and a pair of opposed, substantially planar side faces extending from the central arcuate region, said side faces each having a proximal end that converges into said central arcuate region and an opposite distal end that diverges from the central arcuate region, the distal ends diverging away from one another.

9. The clamp of claim 1, said body including an outer wall and an inner sleeve operably coupled with the outer wall, said sleeve presenting said body inner wall.

10. The clamp of claim 1, said spring comprising a coil spring.

11. The clamp of claim 1, said spring comprising a bellville spring.

12. The clamp of claim 1, including an resilient elastomeric plug operatively maintaining the position of said spring.

13. The clamp of claim 1, including hydraulic fluid passageways formed in said body permitting application of pressurized hydraulic fluid within said body in order to effect movement of said piston relative to said body.

14. The clamp of claim 13, said piston being a single acting piston, there being a translation spring operably coupled with said piston.